

Laparoscopic Resection of Adrenal Teratoma

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ABSTRACT

Background: Teratoma is a germ-cell tumor that commonly affects the gonads. Its components originate in the ectoderm, endoderm, and mesoderm. Extragonadal occurrence is rare. Teratomas confined to the adrenal gland are exceptional; only 3 cases have been reported in the English-language literature. We report 2 cases of mature teratomas of the adrenal gland that were laparoscopically excised.

Methods: Two patients (ages 8 and 61 years) were diagnosed with adrenal teratoma at our institution. Radiological examination showed a solid 8-cm adrenal lesion in both cases. Hormonal assessment was normal. Both patients underwent laparoscopic transperitoneal adrenalectomy.

Results: Surgical time was 120 minutes and 50 minutes, respectively. One patient was discharged on postoperative day 2, and the other remained hospitalized until day 10. The latter patient required percutaneous drainage of a retroperitoneal collection. Both tumors were identified as mature cystic teratomas. No evidence was present of recurring disease in either patient.

Conclusions: Adrenal teratoma is rare. Laparoscopic transperitoneal adrenalectomy is a feasible, effective technique that enables excellent oncologic results. To our knowledge, this is the first report of laparoscopic adrenalectomy for pure adrenal teratoma.

Key Words: Adrenal, Teratoma, Laparoscopy.

INTRODUCTION

Teratoma is a germ-cell tumor that commonly affects the gonads. Its components originate in the ectoderm, endoderm, and mesoderm. Extragonadal occurrence is rare, and it is usually found in the anterior mediastinum, retroperitoneum, and sacrococcygeal region. Primary retroperitoneal teratoma is unusual in patients above the age of 30 years; only 10% have been reported to occur after that age.¹ Teratomas confined to the adrenal gland are exceptional; only 3 cases have been reported in the English-language literature.²

We report 2 cases of mature teratomas of the adrenal gland that were laparoscopically excised.

CASE REPORTS

Case One

An 8-year-old boy was seen for lumbar pain after a fall. Upon physical examination, a right hypochondrial mass was palpable. Excretory urogram revealed a mass in the upper pole of the right kidney (**Figure 1**). Abdominal computed tomography showed an 8-cm heterogenous right adrenal lesion with calcifications (**Figure 2**). Hormonal assessment was negative. Laparoscopic transperitoneal exploration was carried out, and a complete right adrenal resection was performed. Surgical time was 120 minutes. No bleeding occurred during surgery, and the patient was discharged home after 48 hours. The tumor was found to be a mature cystic teratoma located in the right adrenal. Biochemical markers for gonadal neoplasia were negative. Three years after surgery, the patient remained asymptomatic and was free of tumor recurrence.

Case Two

A 61-year-old obese woman was incidentally diagnosed with a left adrenal mass during spinal surgery. Computed tomographic scan revealed an 8-cm solid left adrenal lesion; no calcifications were noted. Hormonal assessment was negative. Left transperitoneal laparo-

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Figure 1. Excretory urogram showing a mass in the upper pole of the right kidney.

scopic adrenalectomy was performed without incident. Surgical time was 50 minutes. No bleeding occurred during surgery. Early postoperative tomographic control showed a retroperitoneal collection in association with the pancreatic tail. The patient underwent percutaneous drainage of the collection and was discharged on postoperative day 10. Pathologic examination of the tissue confirmed a mature cystic teratoma that measured 8cm in diameter and weighed 54 g. After 12 months, a small access port-site hernia was diagnosed. Transperitoneal laparoscopic repair was done utilizing an onlay mesh.

DISCUSSION

Retroperitoneal teratomas are extremely rare. Generally, the exact location is difficult to define. Differentiation of a retroperitoneal teratoma in the para-adrenal area from a true adrenal teratoma is tricky. To our knowledge, only 3 cases of para-adrenal teratoma and



Figure 2. Abdominal computed tomography showing an 8-cm heterogenous right adrenal lesion with calcifications.

adrenal teratoma have been described. Clinical presentation at diagnosis is usually vague with unspecific lumbar and abdominal pain.²

On computed tomographic scans, teratoma is frequently shown as a heterogeneous fat dense mass with calcifications. Magnetic resonance T2 weighed images show teratoma as a highlighted intensity around the tumor components.¹

According to Lam et al,² adrenal teratomas represent 3% of the surgically excised adrenal masses. Of 149 consecutive laparoscopic adrenalectomies performed in the last 10 years at our institution, only 2 (1.34%) were adrenal teratomas.

Pathologic criteria for benign lesions were met in both cases¹: Absence of malignant or immature elements in the tumor,² absence of other similar lesions in other parts of the body,³ normal serum levels of AFP and hCG, and⁴ absence of recurrence in the long-term follow-up. The feasibility of laparoscopic retroperitoneal surgery is currently unquestioned.³ We prefer transperitoneal laparoscopic adrenalectomy for adrenal tumors, because it is a minimally invasive, well-tolerated, highly effective technique.

CONCLUSION

Adrenal teratoma is rare. Laparoscopic transperitoneal adrenalectomy is a feasible and effective technique that enables excellent oncologic results. To our knowledge,

this is the first report of laparoscopic adrenalectomy for adrenal teratoma.

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